

## REMARKS

### **Claim Status**

Claims 1 and 51 have been amended to remove the fluorescence quenching leaving groups for which structures are not provided in Figures 2 and 3 of the original application. That is, the amended claims refer to a dabsyl group, a dimapdabsyl group, a p-dimethylaniline-sulfonyl leaving group, a tetramethyl-phenylenediamine-sulfonyl leaving group, a nitro benzenesulfonyl group, a dinitrobenzene-sulfonyl leaving group as the fluorescence quenching leaving group. Support for such amendment is clearly found in paragraphs [0022] and [0023] and Figures 2 and 3 of the original application.

Applicant respectfully submits that the foregoing amendments do not introduce any new matter to the application as originally filed. With the foregoing amendments, claims 1, 5-14 and 16-27 and 29-52 are currently pending, among which claims 16-27 and 29-39 have been previously withdrawn by the Examiner as being drawn to non-elected species and inventions. Applicant notes that the previously withdrawn claims are being requested to be rejoined with the elected product claims for further examination upon the allowance of the product claims. *See* MPEP §821.04.

### **Claim Rejection – 35 USC §112, First Paragraph (Written Description)**

Claims 1, 5-14 and 50-52 stand rejected under 35 USC §112, first paragraph, for allegedly failing to comply with the written description requirement. In particular, the Examiner alleges that aside from the structures of the six particular groups presented in Figures 2 and 3, Applicant did not provide any structures of any other compounds comprising groups for which structures are not shown in the figures. In response, Applicant respectfully traverses this rejection.

Instant claims 1 and 51 have been amended, without prejudice, to remove the groups for which structures are not provided in Figures 2 and 3 in order to further the examination. As amended, the instant claims refer to a dabsyl group, a dimapdabsyl group, a p-dimethylaniline-sulfonyl leaving group, a tetramethyl-phenylenediamine-sulfonyl leaving group, a nitro benzenesulfonyl group, a dinitrobenzene-sulfonyl leaving group as the fluorescence quenching leaving group, for which structures are provided in Figures 2 and 3 of the original application. It is noted that such support has already been acknowledged by the Examiner (*see* pages 3-4 of the present Office Action).

Moreover, the Examiner alleges that Applicant did not show that any of the claimed groups other than the dabsyl group possess fluorescence quenching properties (*see* page 4 of the present Office Action). In response, Applicant presents the following remarks.

The instant claims, as presently amended, are directed to a composition or a probe pair comprising a fluorophore group and a fluorescence quenching leaving group, wherein the fluorescence quenching leaving group contains a sulfur atom bonded to three oxygen atoms and a carbon chain, and is selected from the six particular groups identified therein and provided in Figures 2 and 3 of the original application.

As previously submitted in Applicant's response filed on May 21, 2009, the fluorescence quenching leaving group of the present invention has very special mechanism designed into it to stabilize the negative charge, that is, the negative charge is shared on three oxygen atoms for stabilization (*see* paragraph [0035] and Figures 2-3 of the original application). The special mechanism contains a sulfur atom bonded to three oxygen atoms and a carbon chain, which structure contributes to stabilization of negative charge for cleavage by nucleophilic attack.

All of the six particular groups, named a dabsyl group, a dimapdabsyl group, a p-dimethylaniline-sulfonyl leaving group, a tetramethyl-phenylenediamine-sulfonyl leaving group, a nitro benzenesulfonyl group, a dinitrobenzene-sulfonyl leaving group, contain the above-mentioned stabilizing structure. When equipped with the description of the stabilizing structure and the showing of the dabsyl group possessing fluorescence quenching properties (best mode), one of ordinary skill in the art, at the time the application was filed, would readily know that the rest five fluorescence quenching leaving groups as identified in the amended claims would also possess similar fluorescence quenching properties due to the same stabilizing structure shared among the six groups.

In light of the foregoing amendments and remarks, Applicant respectfully submits that the instant claims comply with the written description requirement. Accordingly, the rejection under 35 USC §112, first paragraph, should be withdrawn.

#### **Allowable Subject Matter**

Applicant notes that kit claims 40-49 remain allowed in the present Office Action as stated by the Examiner at page 5 thereof. Applicant appreciates the Examiner's statement of allowability of claims 40-49; however, it is believed that the forgoing amendments and remarks would place the other product claims in condition for allowance as well. As such, Applicant respectfully requests that the Examiner further the examination on the other product claims.

#### **Rejoining of Non-Elected Groups and Species**

Upon the allowance of product claims of Group I, *i.e.*, claims 1, 5-14 and 50-52 as presently amended, Applicant respectfully requests that the method claims of Groups II and

III, *i.e.*, claims 17-27 and 29-39, be rejoined for further examination. *See* MPEP §821.04. As previously amended, the withdrawn method claims incorporate all limitations of the product claims.

Also, Applicant respectfully requests that the claims directed to the non-elected species be rejoined with the claims directed to the elected species for further examination if the Examiner finds the claims directed to the elected species allowable upon considering the foregoing amendments and remarks. *See*, MPEP 809.02(a).

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This response is filed timely. No fees are believed to be due. However, should any fees be required for any reasons relating to this document, the Commissioner is authorized to deduct such fees from Howrey LLP Deposit Account No. 08-3038/12665.0024.NPUS01.

Respectfully submitted,

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Date: November 17, 2009